

HYDROGEN FUEL CELL EDITORIALS

What papers are saying about hydrogen

February 11, 2003, The Milwaukee Journal

Investing in hydrogen fuel

Twice in the last few weeks, President Bush has touted the potential of hydrogen for reducing U.S. reliance on foreign oil. In his State of the Union address and again last week, Bush put the administration's support - and, more important, taxpayer money to the tune of \$1.2 billion - behind the development of vehicles powered by hydrogen fuel cells.

While some in the auto industry and even a few environmentalists have praised this particular commitment to achieving energy independence, Bush's efforts have for the most part garnered him a sound beating about the head and shoulders from both the right and the left. While the critics make some good points, Bush deserves better. Free-marketeers argue that it isn't necessary to spend public dollars on fuel-cell research. If this is a technology worth developing, they argue, private industry will develop it and, indeed, is already spending billions on research. If the technical problems prove insurmountable, the government is once again throwing money down a rat hole. Industry, not government, should be taking that risk, the critics say.

Environmental activists argue that Bush is essentially pulling a fast one, trying to distract the public with what may well turn out to be a pipe dream while ignoring technologies already on the shelves that have some real prospect of reducing American consumption of oil. Greater fuel efficiency, for example, could go a long way toward realizing that goal.

Good points all. But none of them enough to warrant removing Bush's FreedomFUEL and FreedomCAR

programs from the federal budget. Yes, affordable and practical hydrogen fuel cells are still a long way off. And, yes, private industry is already spending bundles in the hope that fuel cells are the way of the future.

But targeted properly, government money could play a key role in discovering how to make large quantities of hydrogen available at low cost and in developing a solid infrastructure. And not all the spending Bush proposed is new: \$500 million of the \$1.2 billion for research would come from a program announced last year.

As for the environmentalists' points, we agree that all vehicles should be made cleaner and more fuel-efficient and that other promising technologies need to be vigorously pursued. And we also agree that the administration's motivation for pushing fuel-cell technology may be purely political.

So what? Fuel-cell technology still holds promise, as the money spent by private industry attests. And if it ever does become a reality, the benefits would be enormous. No more reliance on Saudi princes or Iraqi dictators or Iranian ayatollahs. Air pollution would be drastically reduced.

It would seem that such gains are worth a little risk, and even a little tax money.

Star Tribune (Minneapolis, MN),
February 2, 2003

Bush is right to raise investment

Environmentally speaking, there was a single point of light in President Bush's speech to the nation last week - \$1.2 billion to accelerate America's transition to hydrogen-powered, fuel-cell cars.

This is no revolutionary move on Bush's part, but neither is it trivial. The Energy Department already spends about \$100 million a year on fuel-cell cars; the president's proposal would add \$114 million, on average, over each of the next five. That's a substantial boost in total U.S. support for hydrogen vehicle research, now estimated to total \$230 million a year from government and private sources.

It is also heartening to see this president, who generally hews to an oilman's views on energy matters, embrace the notion that gasoline engines can be obsolete by the time today's infants have driver's licenses. Perhaps no one in the world is in a better position to help make it so.

Finally, it is good to see Bush broaden the government's interest from the cars themselves, which are inherently appealing and face no obvious technological roadblocks, to the thornier but mundane problem of building infrastructure - plants, pipelines and pumps - for getting hydrogen to the cars.

Fuel-cell technology is clean and elegant. The prototype cars are quiet, reliable and, as Bush correctly noted, emit only water from the tailpipe. But making hydrogen in industrial quantities can be both dirty and difficult.

Stripping it from water takes a lot of electricity, typically generated in the usual polluting ways.

"Cracking" it from natural gas or other hydrocarbons also takes a lot of energy, and yields planet-warming carbon dioxide besides. Fueling the vehicle fleet might require a tenfold increase in U.S. production of industrial hydrogen, currently about 9 million tons per year.

Just as the important discoveries in fuel cells have happened in

scattered small companies, so might advances in cleaner and more economical ways of making hydrogen.

Therefore, Bush ought to avoid the strategic mistake of the Partnership for a New Generation of Vehicles, the Clinton administration program he derided during his campaign. That initiative spent \$1 billion to help Detroit automakers develop an 80-miles-per-gallon family sedan, which still does not exist.

The automotive age was founded by innovators and entrepreneurs, testing their ideas on a small scale. Scores of manufacturers turned out cars that ran on steam, alcohol, vegetable oil and gasoline. Monopolists, not the market, moved the fledgling industry toward a single fuel and fewer manufacturers.

Today the handful of surviving automakers say affordable fuel-cell cars are at least a decade away — just as they've been saying for the last five years. Relying on them alone to birth the new vehicles would be akin to having asked the railroads to come up with a horseless carriage.

The president is making a sensible investment, but he would do well to scatter it widely — among big companies and small ones, proven technologies and experimental approaches.

In particular, he should back thinkers who see fuel cells not only as replacements for auto engines, but as options for powering homes, factories and office buildings. He should look to chemical engineers working on ways to get hydrogen out of agricultural waste as readily as coal or natural gas.

Finally, he ought to listen anew to such hydrogen advocates as Sen. Byron Dorgan, D-N.D., who make a solid argument for investing at a much higher rate.

San Antonio Express-News,
January 30, 2003

**Offering breath of fresh air;
President Bush is pushing for an
important innovation by calling
for fuel cell research.**

While important parts of President Bush's environmental program are deeply flawed and would exacerbate pollution problems, it was refreshing to hear him tout fuel cell technology in his State of the Union speech.

The president proposed spending \$1.2 billion on fuel cell research to speed up this nation's transition from gasoline-powered cars to a hydrogen-based technology. Fuel cells will create clean energy using a chemical reaction between hydrogen and oxygen, Bush noted.

Moving to fuel cells would decrease U.S. dependence on foreign oil, which is imperative considering the volatile situations in oil-rich nations of the Middle East and South America.

Additionally, the reduction of reliance on dirty engines powered by fossil fuels would create significant progress in the fight to clean America's air.

Bush's call to accelerate this important technological innovation is a breath of fresh air figuratively speaking, and the proposal can literally provide fresh air for Americans to breathe.

Lancaster New Era (Lancaster, Pa.)
February 4, 2003
**Bush's proposal for the hydrogen
car**

Why should the federal government help the auto industry create a successful hydrogen-powered automobile?

Because hydrogen power shows promise of being a clean, abundant replacement for oil, which is both polluting and limited in amount; and the government is best able to coordinate a national effort to convert to a new power source.

In his State of the Union message last week and in the budget he sent to Congress Monday, President Bush proposed to speed development of technology that uses hydrogen as fuel. The project will cost \$1.7 billion over the next five years. The auto industry, which has been working on hydrogen technology for decades, welcomes the government initiative. Many environmentalists praise hydrogen as a clean fuel alternative, although some say this plan is only a cover for allowing auto companies to continue producing fuel-inefficient cars for the foreseeable future.

Inarguably, hydrogen, the world's most abundant chemical, is more benign than oil. Fuel cells combine hydrogen — as a liquid or high-pressured gas — with oxygen from the air to create electricity. Electricity powers the car. The only residue is water vapor.

Every major auto producer has been experimenting with hydrogen-powered cars for years. DaimlerChrysler has put a new hydrogen-powered test car on the road every year for the past five years. Concept cars have proved hydrogen can power family cars at speeds comparable to internal-combustion engines.

What DaimlerChrysler and other automakers cannot do is coordinate a nationwide switch from oil to hydrogen in anything close to the time period the president envisions. Bush hopes children born today will drive hydrogen-powered cars in 16 years.

But there are big problems that the auto industry, with government

help, must conquer if the project is to meet the president's optimistic timetable:

'Hydrogen is considerably more expensive to produce than gasoline. Scientists must develop ways to create the fuel more economically.

'Current hydrogen fuel cells are large and cumbersome. Somehow they must be streamlined to use in the average car.

'Hydrogen is considerably more volatile and can be more flammable than gasoline. A way must be found to store it safely at service stations and in vehicles.

'Before customers could drive long distances, a national system of hydrogen stations, similar to today's gas stations, would have to be in place.

The details of Bush's proposal address these and other concerns. About \$720 million would be used to develop an infrastructure for storing and distributing hydrogen. For example, existing gas stations might be retrofitted with hydrogen storage tanks. This should be accomplished through a loan, not giveaway, program to oil companies.

Much of the rest of the money would be used to speed research on reducing the size and cost of fuel cells. The government also must set safety standards for the entire process.

With this program, the Bush administration is not taking the hydrogen initiative away from the automobile companies. It is establishing hydrogen-powered cars as a national priority and proposing to coordinate the industry's efforts to produce such a system.

If the project goes forward as expected, it not only will produce more environmentally friendly

vehicles but will reduce the nation's dependence on foreign oil -- an economically and politically favorable prospect that may justify the program's cost in itself.